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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Isao Takeuchi

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EXAMINER

SHANG, ANNAN Q

ART UNIT

PAPER NUMBER

2424

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/862,826	<b>Applicant(s)</b> TAKEUCHI, ISAO	
	<b>Examiner</b> ANNAN Q. SHANG	<b>Art Unit</b> 2424	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 May 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 4-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1 and 4-6 have been considered but are moot in view of the new ground(s) of rejection.

With respect to claims 1 and 4-6 are rejected under 35 U.S.C. 102(b) as being anticipated by **Igarashi et al (5,940,143)**, applicant amends claims, discusses the claim limitations and the prior art of record and argues that, the prior art of record does not teach the claim limitation, i.e., "...phase locking to only a frequency portion of said frequency bandwidth of the channel which includes said interference signal such that phase locking is not attained..."(see page 4+ of Applicant's Remarks).

In response Examiner notes applicant's arguments; however, **Igarashi further discloses where the receiving apparatus can be set at a frequency level or band to prevent the reception of a specific interference, i.e., isolating leakage interfere, etc., in other words isolating interference of a particular frequency within a frequency range or bandwidth (col.6, lines 7-30, col.7, lines 1-30, col.8, lines 7-40, col.9, lines 34-65 and col.11, lines 35-52)**. Hence it would have been obvious to one of ordinary skill in the art at the time of the invention to modified Igarashi system to set the frequency level or a range for capturing or isolating interference frequency within a frequency range. Igarashi discloses suppressing inference (isolating) mixed in the frequency bandwidth of the channel. Igarashi discloses that interference in the channel as a result of specific terrain during a specific weather change (col.3, lines 64-67) and also interference which may be cause by the peripheral elements within the receiver.

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Igarashi teaches that the channel received at the receiver is mixed with interference signal and discloses a Limiter-180, which dynamically adjusts interference of a peak level or threshold and a PLL/Controller 130/220, which phase locks to the interference signal of the peak level and feeds the signal to a level adjuster IFAGC-100 as illustrated by the feedback loops (figs.1-3 and in col.7, lines 1-52, col.8, lines 30-40, col.9, lines 48-65 and col.11, lines 35+). Igarashi further discloses interference may occur between channels caused by broadcast having different levels such as high-definition TV signal and standard TV signals transmitted simultaneously and also as a result of the peripheral elements within the receiver, when a desired channel is selected (col.3, line 64-67, col.6, line 22-27 and col.11, lines 35-52). Hence Applicant's amended claims do not overcome the prior art of record. The amendment to the claims necessitated the new ground(s) of rejection discussed below. **This office action is made final.**

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 4-6 rejected under 35 U.S.C. 103(a) as being unpatentable over **Igarashi et al (5,940,143)**

As to claim 1, note the Igarashi reference figures 1-3, disclose high-definition TV signal receiving apparatus and gain control circuit and further discloses an interference reducing circuit comprising:

Receiving means (NTSC Receiver, col.5, lines 5, lines 3-17 and lines 44-58) which includes a signal processing circuit for tuning and demodulating a reception signal of a frequency bandwidth of a channel having the interference signal being mixed in the frequency bandwidth of the channel and having a high peak level in the the frequency bandwidth (col.3, line 64-67, col.5, line 58-col.6, line 6, line 22-27 and col.11, lines 35-52);

Phase locking means (PLL/Controller 'PLL/C' 130/220) for attaining phase locking to only a portion of the frequency bandwidth of the channel which includes the interference signal such that phase locking having the highest peak level in the locking range and such that other frequency portions of the frequency bandwidth are out of the capturing range (col.5, lines 18-35, col.6, lines 7-15, lines 31-42, col.7, lines 1-52, col.8, lines 30-40, col.9, lines 48-65 and col.11, lines 35+), **note Igarashi discloses a Limiter-180, which adjust the interference of a peak level or threshold.**

Level adjusting means (IFAGC-100, col.7, line 53-col.8, line 6) for adjusting a level of a phase-locked signal that is output from the phase locking means to be equal to a level of the interference signal (col.8, lines 7-67 and col.10, line 60-col.11, line 52) and subtracted means (AGC Detector 200) for subtracting the level-adjusted phase-locked signal of the reception means (col.7, lines 31-63), note that besides suppressing interference between channels caused by broadcast having different levels such as

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high-definition TV signal and standard TV signals transmitted simultaneously, Igarashi further discloses suppressing interference in the same channel as a result of specific terrain of during a specific weather change and also interference cause by the peripheral elements within the receiver, when a desired channel is selected.

Igarashi, does not clearly disclose attaining phase locking to only a frequency portion of a frequency bandwidth of the channel which includes the interference signal having the highest peak level in the locking range such that other frequency portions of the frequency bandwidth are out of the capturing range.

However, **Igarashi** further discloses where the receiving apparatus can be set at a frequency level or band to prevent the reception of a specific interference, i.e., isolating leakage interfere, etc., in other words isolating interference of a particular frequency within a frequency range or bandwidth. Igarashi discloses suppressing inference (isolating) mixed in the frequency bandwidth of the channel. Igarashi discloses that interference in the channel as a result of specific terrain during a specific weather change (col.3, lines 64-67) and also interference which may be cause by the peripheral elements within the receiver.(col.6, lines 7-30, col.7, lines 1-30, col.8, lines 7-40, col.9, lines 34-65 and col.11, lines 35-52).

Hence it would have been obvious to one of ordinary skill in the art at the time of the invention to modified Igarashi system to set the frequency level or a range for capturing or isolating interference frequency within a frequency range.

As to claim 4, Igarashi further discloses where the interference signal has an amplitude-modulated or frequency-modulated carrier and where a loop characteristic of

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the PLL means is set so as to follow the amplitude-modulated carrier or the frequency-modulated carrier (col.5, lines 36-65 and col.8, lines 6-40 and col.11, lines 35-52).

As to claim 5, the claimed "a TV broadcasting receiver, comprising..." is composed of the same structural elements that were discussed with respect to the rejection of can 1 above.

Claim 6 is met as previously discussed with respect to claim 4.

### ***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Annan Q. Shang** whose telephone number is **571-272-7355**. The examiner can normally be reached on **700am-400pm**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Christopher S. Kelley** can be reached on **571-272-7331**. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the **Electronic Business Center (EBC) at 866-217-9197 (toll-free)**. If you would like assistance from a **USPTO Customer Service Representative or access** to the automated information system, **call 800-786-9199 (IN USA OR CANADA) or 571-272-1000**.

/Annan Q Shang/  
Examiner, Art Unit 2424

**Annan Q. Shang**